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TRENDS IN ACCOUNTING EDUCATION

A well-known business professor takes stock of the current state of accounting education and takes a look at the next two decades.

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*Man shapes the future in many ways
By the monuments he builds,
And by the books he writes!
But the most powerful way in which
Man affects the shape of tomorrow
Is by the ideas and knowledge,
Which he transmits to his successors,
By Education.¹*

At the start of a new decade, one naturally attempts to take stock of past accomplishments and one is also tempted to speculate as to what the future might still have to offer.

It is, therefore, not surprising that the turn of every decade produces a flood of articles and speeches in every area of human endeavor which summarize the major revolutionary accomplishments of the recent past and which express more or less valid subjective projections as to the scope, velocity, and direction of future developments. While most of those predictions amount rarely to more than plain crystal ball gazing, there do exist areas today where predicting the future is no longer such hazardous endeavor—areas in which the disciplines in question are already in the midst of a dramatic evolution and the changes to come in the future are very likely only extensions and accelerations of recent trends.

A discipline where the handwriting of the future is definitely already visible to anyone willing to acknowledge it is accounting and, with it, accounting education.

The Environmental Changes

Since accounting is a service discipline, it is extremely sensitive to changes in the environment of the groups it serves.

It is common knowledge that we are at present in the midst of a technical revolution in business management. We already are observing that management becomes increasingly more analytical and scientific, and the role of “hunch” and even “informed judgment” becomes steadily smaller. The use of sophisticated analytical approaches in management decision processes (such as mathematical programming and the extensive use of high speed computers) increases steadily. Management today is becoming clearly a professional job with skills and training of its own. The manager today has the status of a coordinator of diverse interests within the enterprise, as contrasted to that of the “boss” of the past with unchallenged power and responsibility only to the owners.

Management still has to make some decisions, although most of the recurring, routine ones are already made by a computer, that “patient helper completely without intelligence but with thousands of electronic hands eager to perform the routine tasks programmed for them by their intelligent master.”² Most of management’s time and energy today is used in getting the decisions (plans and policies) carried out effectively.

We are also aware of the fact that enterprise and, with it, their managers are no longer

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A frequent speaker in business fields, Dr. Ramanaukas has had more than 25 articles published in professional journals and is the author of the German language booklet, “The Moneyless Way of Wage Payments.”

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solely judged by their ability to provide good products at a reasonable price but also by their "social awareness" or by their knowledge of and involvement with the social and economic forces at work in our society.

The Changing Nature of Accounting

Since accounting does not occur in a vacuum but has as its goal to serve within the contemporary social and business framework, the nature and scope of accounting has been affected. There exists already considerable evidence that the scope of accounting is widening and its complexity increasing. While in the past the only data accumulated, reported, and audited by accountants were those of a strictly financial nature, electronic data processing now enables the economic accumulation and processing of vast quantities of data of a nonfinancial or strictly operating nature—providing thereby the basis for maintaining highly integrated total information systems. Those integrated management information systems provide management of all levels with the tools and information necessary for planning, decision making, and measuring of performance.

At present one can witness within numerous enterprises a struggle between operation researchers, system specialists, economists, industrial engineers, and accountants for the key position in this new integrated communication network.

One also can observe that those accountants who are successful in becoming heads of the vast new integrated information systems generally possess a fairly good knowledge of the interrelated workings and problems of the various other segments of the enterprise. They also have a good working knowledge of the modern decision making tools developed by the newly emerging disciplines. And, of course, they are thoroughly familiar with the capabilities and workings of the data accumulation hardware, the computer. Without this broader background, accountants generally are displaced from the key positions as attention directors and problem solvers by a new breed of information specialists and are degraded to "custodians of dead files."³

Public accountants who still largely identify themselves with that portion of the integrated information system which relates explicitly to financial requirements become aware that they regress in their usefulness to management, and in their understanding of the overall business patterns, if they continue to refuse to audit, and to become involved with, the entire information system. In order to be capable to do this the public accounting profession has meanwhile realized that they, no different from the

private accountant, need added depth and breadth in the knowledge of the related disciplines.

Implications for Accounting Education

The most important implication of these observations is that we must train accountants today in such a way that they will be capable of functioning in a rapidly changing, sophisticated, continuously more complex business environment. We have to expose them not only to the most intense education ever endured by any generation, but we must place primary importance on developing their ability to think logically and to react rationally when confronted with new problems or issues. If they are to cope successfully with the rapidly changing world around them, we have to develop in them a flexibility of mind, a receptivity to new ideas, and the habit of keeping on learning for themselves after they leave the universities.

We must also keep in mind that we are really training today the top level accountants of the 80s and 90s and that we will have to minimize the teaching of solely descriptive information about today's best practices which, because of their short-lived usefulness, might become the dead weight of tomorrow. A certain amount of detail knowledge about current practices is of course unavoidable in any field, but it is much more important to teach the students to think logically without stifling their imagination, to make them creative and continuously on the search for different and maybe better ways of doing things. A student will benefit in the long run much more if he is taught to be a broad scale problem solver and not a narrow specialist with loads of technical skills of only short-lived usefulness.

The Present State of Accounting Education

The present state of accounting education evolved from quite serious soul searching endeavors of the profession during the past decade. Aroused by the Gordon-Howell Report (sponsored by the Ford Foundation) and the Pierson Report (sponsored by the Carnegie Foundation) in the late fifties, which were quite critical about business education in general, the accounting profession (with the American Institute of Certified Public Accountants leading the way) started a series of investigations which culminated in the delineation and description of the Common Body of Knowledge to be possessed by those beginning their professional careers as CPAs.

The summary and conclusions of the three year study, headed by Robert H. Roy and James H. MacNeil, were published by AICPA in April, 1966 under the title "Horizons for a

Profession.” The reactions to the study, obtained from 55 seminars across the country attended by educators and state board members, were overwhelmingly favorable and the Common Body of Knowledge suggested therein as desirable was wholeheartedly endorsed and became the authoritative source document for all later actions.

The Common Body of Knowledge for CPAs

Although the study did not produce—as originally hoped for—some sort of descriptive syllabi of the various areas of knowledge required, it nevertheless stimulated considerable interest and creative progress by suggesting some broad general guidelines without spelling out clear upper or lower bounds.

The report started by acknowledging that “the advent of the computer, the development of sophisticated mathematical and statistical tools now applicable to everyday problems and decision making, and the promise of enlightening research results in behavioral science in the near future make increased rigor mandatory if the CPAs are to maintain a place in the sun.”⁴ From this the only logical conclusion was that tomorrow’s CPAs (or for that matter all professional and executive accountants) do require educational preparation of greater breadth and sophistication, which would in turn suggest the necessity of future graduate training as requirement for admission to the profession. As to specific recommendations, it was felt that tomorrow’s beginning CPA, besides a conceptual grasp of accounting and its interdisciplinary aspects, must have mathematical facilities far beyond that possessed by his professional predecessors. He must also possess sufficient knowledge and skill to understand and to use computers and to keep pace with their future developments. In his role as advisor to and/or member of organizations, the accountant should also have a fundamental awareness of individual and group behavior patterns. Finally he must be prepared to grow with changing conditions and ideas.

The Model Program for Accounting Education

Subsequent to the publication of “Horizons for a Profession,” the president of AICPA appointed in September 1966 a special ad hoc committee on education and experience requirements, whose role it was to examine the implications of the new recommendations on career preparation and training.

The committee chaired by Elmer G. Beamer (and, therefore, commonly called the Beamer Committee) came to the conclusion that in order to satisfy the expanding role of accountancy, greater reliance has to be placed on formal education and less on on-the-job

training as means of professional preparation. In order to master the body of knowledge, which is now commensurate with the accountant’s public responsibility, at least five years of collegiate studies seems required.

To provide the educational institutions with a suggested blueprint for curricula design, a model program was developed by the committee and its recommendations were published in 1968 as “Academic Preparation for Professional Accounting Careers.”⁵

The Model Program (on page 9) was intended to be descriptive rather than prescriptive; credit hours were used only to suggest the committee’s conclusions as to the relative emphasis to be given to the various subject areas or topics.

Education for professional accounting in the Model Program is viewed as composed of two parts, general education and business education.

General Education

It was suggested by the committee that the general education part of the overall program should account for approximately 60 credit hours, which is 40% of a five-year program, or 50% of the conventional four-year undergraduate program. Its blueprint includes, besides strictly liberal arts subjects (25 credit hours), quite a number of topics such as communication, behavioral sciences, economics, elementary accounting, and an introduction to computers and mathematics, which have already a quite direct relationship to the requirements of professional accounting practice.

Since a basic knowledge of computers (what they are and what they can do) is so vital, it was felt that this device should be introduced early in the student’s college career so that he has the opportunity to use it as a valuable tool in the courses taken subsequently. In the elementary course the student should acquire at least (1) a basic knowledge of one computer system—the function of the component parts, the general capabilities of the system, and the more universal terms associated with the computer; (2) the ability to design, analyze, and flowchart a system of modest complexity; and (3) a working knowledge of one computer language sufficient to program, debug, and test a simple program. The understanding of the control procedures and the needed modification of auditing methods to conform to computerized systems was to be taught at a more advanced level.

The study of mathematics, statistics, and probability, it was felt, must also be started at an early stage if the student is to not only become sufficiently familiar with all the mathematical techniques which have applications

to the solution of business problems, but if he is to develop a facility with symbolic notation and become capable of reducing complex problems to their essential elements and expressing their relationship in quantitative terms.

A minimum program to achieve these objectives must necessarily include at least a basic knowledge of modern algebra (linear and nonlinear) and calculus (differential and integral), as well as probability and statistics. At this early stage "conceptual understanding" rather than "manipulative skill" was sought, with additional course work in the actual application of the quantitative techniques to the solution of business problems to follow at a more advanced level.

Business Education

Besides courses for specialization in accounting, this section includes mainly the general business courses necessary to provide an understanding of the major functions of the business society—production, marketing, and finance—and an understanding of the social forces influencing business.

New in this area is the emphasis on organization theory, group and individual behavior, and the specific applications of the various quantitative techniques.

Summarizing, the committee stated that regardless of the institutional setting (two-year junior college plus two years in a senior institution; four-year institution; undergraduate and graduate program) in which a student completes his career preparation, the scope and content of it should approximate the five-year Model Program. Since at the present the majority of the educational institutions still offer four-year programs (complemented by graduate studies if so desired by the student), the committee suggests that such four-year programs should match the Model Program in scope but should treat the topics at less depth.⁶ The wording of the recommendation made it quite clear, however, that such compromise is tolerated only as a transitional solution.

Proposed Content Changes of the CPA Examination

Simultaneously with the deliberations of the Beamer Committee, another ad hoc committee was created by AICPA in September 1969 and was charged with the task of studying the present purpose and content of the CPA examination and of recommending appropriate changes in the light of current and anticipated circumstances.

After the recommendations of the Beamer Committee, and with it the Model Program, were adopted in May 1969 by the Council of

AICPA as Institute policy, the level of the CPA examination was redefined as follows:

The examination is directed to a level of basic competence of professional quality in the discipline of accounting. This basic competence can be attained through college study in programs comparable to those described in "Academic Preparation for Professional Accounting Careers." The examination will continue to advance so that, by 1975, it will be directed to the level of basic competence generally attained from five years of college study.⁷

The most revolutionary content changes will stem from the inclusion of new material and are therefore of special interest in the context of this paper.

The committee demands that new material should be included into the examination when it receives substantial attention in the literature or when there is evidence that it is being taught in the leading schools of business. It endorsed at this time the introduction of questions involving computers and quantitative techniques applicable to professional accounting at a progressive basis until the May 1975 examination when it should be presumed that the candidates will possess a knowledge of these topics at the level suggested by the Model Program.

In view of the increasing reliance of the public upon CPAs for assistance in the area of management services, the committee recommended also the inclusion at an increasing rate of problems testing the knowledge required for management service engagements.

There is little doubt in the mind of the writer that these recommendations will also receive the sanction of the Council of AICPA and thereby become the strongest possible challenge to educational institutions as well as to individual educators. But at least neither group will be forced to speculate as to criteria for curriculum design and specific course selection, because the profession has done an excellent job of spelling out in some detail its current and future educational needs. The educators' job is only one of step-by-step implementation (if they have not started so already) or, in other words, of adjusting the conventional structure of accounting education to the new broad objectives.

Present Profile of Accounting Education

The present profile of accounting education is quite masterfully portrayed in a recent publication which reports on the results of a survey project undertaken by Doyle Z. Williams, the special education projects manager of AICPA.⁸ The data included dealt with all possible aspects of accounting education, but we

MODEL PROGRAM
ALTERNATIVE PROGRAMS IN ACCOUNTING

General Education		Semester Hours	
Communication		6-9	
Behavioral sciences		6	
Economics		6	
Elementary accounting		3-6	
Introduction to the computer		2-3	
Mathematics (modern algebra, calculus, statistics and probability)		12	
Other general education		25-18	
		<u>60</u>	
General Business		Five Year	Four Year
Economics (intermediate theory and the monetary system)		6	6
The social environment of business		6	3
Business law		6	4
Production or operational systems		3	2
Marketing		3	2
Finance		6	4
Organization, group and individual behavior		9	6
Quantitative applications in business (optimization models, statistics, sampling, Markov chains, statistical decision theory, queueing, PERT, simulation)		9	6
Written communication		3	2
Business policy		3	3
		<u>54</u>	<u>38</u>
Accounting			
Financial reporting theory	}	9	6
Applied financial accounting problems			
Contemporary financial accounting issues			
Cost determination and analysis	}	6	3
Cost control			
Cost-based decision-making			
Tax theory and considerations	}	3	3
Tax problems			
Audit theory and philosophy			
Audit problems	}	6	3
Computers and information systems in business			
		<u>30</u>	<u>19</u>
Electives		<u>6</u>	<u>3</u>
		<u>150</u>	<u>120</u>

"Academic Preparations for Professional Accounting Careers," AICPA, 1968

shall mention here only those considered relevant to our discussion.

It is believed that during the academic year 1967-68 approximately 700 schools in the United States offered accounting programs at the senior and graduate level. Schools which do not offer accounting programs tend to be small institutions; large institutions, regardless of their type of support, always offer accounting programs.

The number of undergraduate degrees conferred in accounting has increased about 60% during the last decade, with most of the increase occurring since 1962. The ratio of accounting degrees to total bachelors' degrees conferred in the United States was 2.8%, varying from a high of 3.8% in the Southwest to 1.8% in the Plains States.

On the average, the curricula requirements of the collegiate institutions differ from the four-year curriculum suggested by AICPA's Model Program in three respects. *First*, the semester hours required in EDP average 1.5 units while the Model Program, as you may recall, suggested 6 to 7 semester hours in EDP and information systems. *Second*, the schools, as the survey shows, require on the average about 9 semester hours of quantitative methods while the Model Program considered 18 semester hours of mathematics, statistics, and quantitative applications as the absolute minimum. *Third*, while the Model Program reduced the actual specialization in accounting to 18-21 hours, most schools still require 26 hours of accounting for a major in their bachelor's program.⁹

To conform with the suggestions in the Model Program, most institutions must therefore still increase their required offerings in EDP and quantitative methods and must make room for the increased hours by moving highly specialized accounting courses to the fifth year—possibly the graduate year—of study.

In the institution with which the writer is affiliated, EDP and quantitative methods were accommodated by accelerating the conventional accounting instruction at the beginner's level and condensing the first three courses into two. Highly specialized courses such as consolidations, municipal accounting, budgeting, etc., were classified as optional and some highly specialized advanced courses were moved to the graduate level. At present we are in the process of developing a powerful first EDP course to be offered as a required course on the freshman level. We already have made considerable progress in upgrading and modernizing our undergraduate mathematics and statistics offering. We still do not require a sufficient amount of course work at the undergraduate level to completely satisfy the demands made by the Model Program, but we make up for this shortcoming at the graduate level, where 8 hours of quantitative techniques and 4 hours of systems are required from every MBA candidate and more is offered on an elective basis.

The available survey data suggest that the number of master's degrees conferred in accounting has increased at about the same pace as the number of master's degrees in other disciplines. In the participating schools a comparison of master's degrees to bachelor's degrees conferred showed that for every 100 bachelor degrees came 6.5 master degrees. As the profession moves to require a fifth year of accounting study, this ratio will have to increase substantially within the very near future.

The most popular master's program in accounting is the MBA program. However, 36% of the schools which offer graduate programs in accounting offer a master of science program. Again, judging from her own institution, the writer would venture to say that most institutions offering a master's program generally come quite close to matching the Model Program requirements in scope as well as in depth; of course, some are already surpassing it. By 1975 I doubt if any reputable educational institution will offer any master's program below the recommended level.

It is believed that in 1968 there were 44 doctoral programs in accounting. Thirty-one schools offered Ph.D. degrees; eight, DBAs; and five schools offered both. On the doctoral level, clear trends of specialization can

be observed. Some schools place emphasis on EDP and systems, some on strictly quantitative approaches, and others stress research in the newly emerging area of the behavioral aspects of accounting.

The description of the current profile of accounting education would be incomplete without mentioning accounting education in junior colleges. With the rapid growth of junior colleges all over the country an increased number of students attend such two-year institutions prior to their entrance into a senior college and receive part of their accounting education there. Junior colleges offer a variety of accounting courses and require an average of almost 17 semester hours of accounting for a major. But at the present their course offerings are neither in scope nor breadth sufficiently coordinated with the offerings of four-year institutions to guarantee the transfer student trouble free adjustment.

Summary and Outlook

As stated at the outset, projections as to the future developments in accounting education are quite simple, because the trends are clearly visible on the horizon. Even in regard to their speed, fairly safe predictions are possible.

One does not need any special prognostic talent to foresee that by 1975 every beginning professional accountant will possess the body of knowledge envisioned as prerequisite by the profession in the sixties. Most educational institutions offering accounting programs will have them upgraded by then, although the writer doubts that five years of course work will become the common prerequisite for a bachelor's degree. It seems more likely that the present BA/MBA sequence will be retained, with course work equivalent to a MBA degree as the prerequisite for acceptance to the CPA examination and thereby technically for entrance into the profession.

The new breed of accountants produced in the seventies and eighties will be capable of using mathematics as a tool of thinking in itself, and they will be trained to react rationally when confronted with new problems or issues. They will possess less knowledge about detail practices than their predecessors, but they will be capable of broad scale problem solving and attention directing and they will use all the modern sophisticated quantitative techniques and the electronic data accumulation hardware in doing so.

There will take place some drastic changes in the actual way of instruction. Accounting concepts and procedures will be augmented by presentations in the symbolic notations of

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"TWILIGHT OF THE ACCOUNTANTS,"

Howard I. Ross, *The Journal of Accountancy*, Vol. 129, No. 6, June 1970.

This is a thoughtful article reprinted from the *Canadian Chartered Accountant* asking us to consider three obvious questions concerning the redefinition of the profession "accounting."

- "1. Which disciplines should be included and which excluded?"
- "2. How can standards of competence be guaranteed in these fields?"
- "3. How do we integrate experts with different backgrounds into the profession?"

He concludes that accounting will not remain what it has been and that we all ought to be concerned about the direction we are going. He encourages us to make long-range plans, but also to watch current developments and give serious attention to the reorganization which appears to be on the horizon.

"This might not then be a twilight, it might be a dawning."

M.E.D.

"THE DECLINE AND FALL OF CRATCH-IT . . .," Robert L. Posnek, *The Journal of Accountancy*, Vol. 129, No. 5, May 1970.

This article should be required reading for every accounting student and is delightful entertainment for anyone who is or has been in public accounting. Mr. Posnek was an English major and his talent in communication is evident in his finished article.

He describes his first six years in public accounting, his changing concept of the accountant, and the profession's problems. Fortunately the partner with whom he first worked was both a skilled teacher and the accountant we would all aspire to be.

This article ought not only entertain you, but inspire you to reach for higher goals, to reflect on the image you present to younger accountants, and to convince you that among the younger generation there is indeed some fine raw material. Don't miss it!

M.E.D.

TRENDS IN ACCOUNTING EDUCATION

(Continued from page 10)

mathematics, and the conceptual approach in every phase of instruction will dominate.

The business applications of the mathematical techniques will be more and more integrated with the course content of functional subject areas, such as planning, cost accounting, controllership, etc. The students will be using the computer in solving some of their homework problems with an everyday casualness.

The new breed of accounting instructors will nearly all possess a doctoral degree and it will no longer be unusual if they also possess degrees in related disciplines. Most of the present accounting educators, if they want to retain their usefulness, will have to undergo a painful, time- and energy-consuming rejuvenation process. The same, of course, applies to the present members of the profession.

Altogether it will be a fascinating period to watch and the writer looks eagerly forward to witnessing the advance of the discipline of accountancy to new glorious heights.

FOOTNOTES

1. "The Future of Accounting Education," Report on the Conference on Accounting Education, December 15-16, 1960, Graduate School of Industrial Administration, Carnegie Institute of Technology, Pittsburgh, Pennsylvania.
2. "Accounting and Financial Reporting in the Seventies," Sidney Davidson, *Journal of Accountancy*, December, 1969.
3. "Mathematics as a Tool of Accountancy," Zenon S. Zametos, *The Accounting Review*, April, 1963.
4. "Horizons for a Profession: The Common Body of Knowledge for Accounting," Robert H. Roy and James H. MacNeil, *Journal of Accountancy*, September, 1966.
5. "Academic Preparation for Professional Accounting Careers," AICPA, 1968.
6. Report of the Committee on Education and Experience Requirements for CPAs, March, 1969, AICPA.
7. Report of the Committee to Study the Content of the CPA Examination, July, 1969, AICPA.
8. "A Statistical Survey of Accounting Education, 1967-68," Doyle Z. Williams, Ph.D., C.P.A., AICPA, July, 1969.
9. *Op. cit.*

A lot of today's frustration is caused by a surplus of simple answers, coupled with a tremendous shortage of simple problems.

Readers Digest, August 1969.